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IS 3573 (2010): Sea Anchors for Lifeboats and Liferafts
[TED 19: Marine Engineering and Safety Aids]



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भारतीय मानक
जीवन रक्षक नौकाओं और जीवन रक्षक रैफ्ट
के लिए समुद्री लंगर — विशिष्टि
(पहला पुनरीक्षण)

Indian Standard
SEA ANCHORS FOR LIFEBOATS AND
LIFERAFTS — SPECIFICATION
(*First Revision*)

ICS 47.080

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FOREWORD

The Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Marine Engineering and Safety Aids Sectional Committee had been approved by the Transport Engineering Division Council.

This standard was first published in 1966. This revision has been undertaken in order to incorporate changes in International Maritime Resolution requirements. In the revised standard, sea anchors with non-circular mouth have been deleted since these are no more in use.

Sea anchors form a part of the equipment for lifeboats and liferafts.

These anchors may also be used for small crafts other than lifeboats and liferafts.

This standard is based on the International Convention for the Safety of Life at Sea, 1960.

Notwithstanding what is stated in this standard, life saving appliances provided on board merchant navy ships, shall conform to statutory rules in this behalf under the *Merchant Shipping Act*, 1958, as modified from time to time and shall be subject to the approval of the Government of India.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

SEA ANCHORS FOR LIFEBOATS AND LIFERAFTS — SPECIFICATION

(*First Revision*)

1 SCOPE

This standard specifies requirements for sea anchors used with lifeboats and liferafts.

2 REFERENCE

The following standard contains provision which through reference in this text, constitutes provision of this standard. At the time of publication, the edition indicated was valid. All standards are subject to revision and parties to agreements based on this standard is encouraged to investigate the possibility of applying the most recent edition of the standard indicated below:

| <i>IS No.</i> | <i>Title</i> |
|---------------|--|
| 1084 : 2005 | Manila ropes — Specification (<i>fifth revision</i>) |

3 DESCRIPTION

Sea anchor consists of a specially constructed canvas bag, a hawser and a tripping line (*see* Fig. 1). The canvas bag has a wide mouth at one end and tapers down to a small one at the other end. The bag shall be conical in shape. The sea anchor in conjunction with the oil bag is used to smoothen the effect of waves and swells.

4 REQUIREMENTS

4.1 The canvas part shall be strongly sewn together and roped at the seams with 44 mm circumference manila rope of Grade I quality as given in IS 1084, the ropes then being formed into a bridle with a thimble seized in the connecting end, and the ropes extended and seized into a parcelled loop to form the attachment for the tripping line.

4.2 Sea anchors shall be fitted at the mouth with galvanized mild steel hoop made of 10 mm diameter rod.

4.3 The reinforcing lines shall be designed to restrict the sea anchor from tumbling through itself.

4.4 The sea anchor shall be stable when towed through the water at speeds up to 6 knots.

4.5 The sea anchor mouth shall open immediately on deployment.

4.6 The property of grip in sea anchor hawsers and tripping lines is essential and where it is proposed to provide synthetic rope, care should be taken to ensure that suitable rope is used. It is desirable that the sea anchor, together with the hawser and tripping line, should be stowed in a canvas bag for protection; plastic bags are unsuitable for this purpose.

4.7 Hawser

A hawser shall be attached to the sea anchor by means of a galvanized mild steel shackle of suitable size to take the thimble.

4.7.1 The length of the hawser shall be at least three times the length of the lifeboat or liferaft.

4.7.2 A fairlead should be fitted on the gunwale at the forward end of the boat for streaming the sea anchor, or for use when the boat is being towed. The portion of the hawser which would lie over the fairlead when riding to the sea anchor should be protected by parceling. A swivel should be fitted to the sea anchor in order to prevent the hawser unlaying as a result of rotation. The sea anchor hawser should be provided in addition to the boat's painters.

4.8 Tripping Line

The tripping line shall be attached to the lower end of the sea anchor.

4.8.1 The tripping line used to secure the sea anchor to a life raft or boat shall,

- a) be inherently rot proof and of braided construction; and
- b) be 30 m long; not less than 8 mm in diameter and have a breaking load including attachments and knots of not less than:
 - 1) 7.5 kN for life rafts up to 10 person capacity;
 - 2) 10.0 kN for life rafts of 11 person to 25 person capacity; and
 - 3) 10.0 kN for all other sea anchors or have a factor of safety of 3:1 based on a tow test at 6 knots, whichever is the greater.

4.9 The minimum sizes of the sea anchors for use with lifeboats and liferafts shall be as given in Table 1.

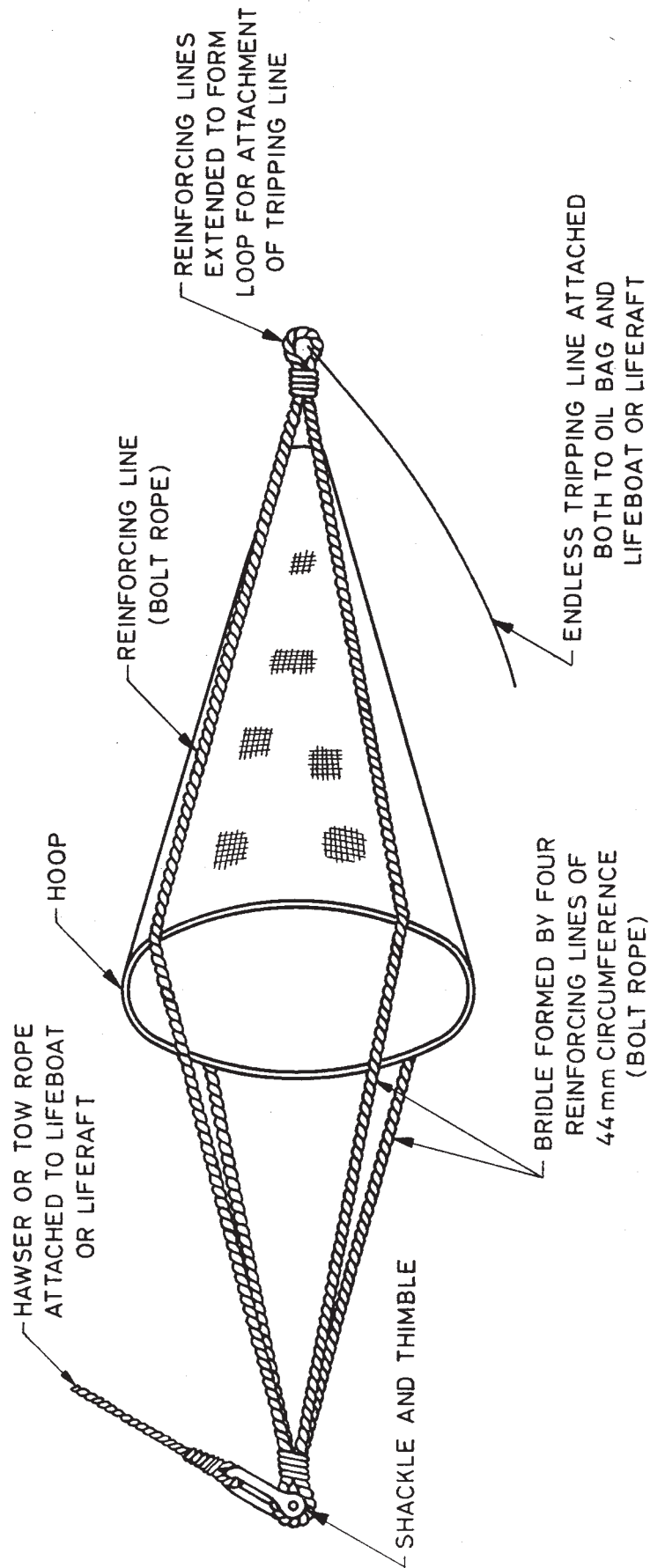


FIG. 1 SEA ANCHOR

Table 1 Minimum Sizes of Sea Anchors for Lifeboats and Liferafts
(Clause 4.9)

| Sl No. | Craft | Sea Anchor | | Minimum Sloping Length of Shroud Lines mm (5) |
|--------|---|-------------------------------------|-------------------------------------|---|
| | | Minimum Mouth Diameter mm (3) | Minimum Sloping Length mm (4) | |
| (1) | (2) | | | |
| i) | Liferafts up to 10 person capacity | 400 | 600 | 600 |
| ii) | Liferafts from 11 to 25 person capacity and inflated boats | 500 | 670 | 670 |
| iii) | Liferafts over 25 person capacity, lifeboats and rescue boats up to 6 m in length | 600 | 780 | 780 |
| iv) | Lifeboats and rescue boats over 6 m in length and up to 9 m in length | 700 | 920 | 920 |
| v) | Lifeboats over 9 m in length | 800 | 1 050 | 1 050 |

5 OIL DISTRIBUTING APPARATUS

5.1 A vessel containing 4.5 litre of vegetable, fish or animal oil, shall be provided.

5.2 An oil bag shall be provided to enable the oil to be easily distributed on the water and shall be so arranged that it may be attached to the sea anchor by an endless line.

6 MATERIAL

6.1 The sea anchor material shall be porous, slightly stiff and shall allow a water penetration of between 10 and 12 cm³/s/cm² at a pressure of 550 Pa (roughly equivalent to a speed through water of 2 knots).

6.2 The ropes used shall be such that immersion in sea water does not appreciably increase their weight and shall be in accordance with Grade I of IS 1084.

7 DESIGNATION

The sea anchors conforming to this standard shall be designated by the name, diameter of mouth of canvas bag, and the number of the standard.

Example:

A sea anchor with a diameter of 685 mm at mouth of canvas bag conforming to this standard shall be designated as:

Sea Anchor 685 IS 3573.

8 MARKING

8.1 The sea anchors shall be clearly and legibly marked with the following:

- Manufacturer's name or trade-mark;
- Designation as per 7.1;
- An identification code to trace back anchors with manufacturer's test records; and
- Country of manufacture.

8.2 BIS Certification Marking

The sea anchors may also be marked with the Standard Mark.

8.2.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to the manufacturers of producers may be obtained from the Bureau of Indian Standards.

Bureau of Indian Standards

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This Indian Standard has been developed from Doc No.: TED 19 (474).

Amendments Issued Since Publication

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